LISTING AND AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method for automatically modeling film grain patterns, comprising the steps of:

transforming a set of film grain samples to the frequency domain;

storing each set of coefficients resulting from such transform, the coefficients forming a pattern;

analyzing the pattern created by the transform coefficients; and

estimating the cut frequencies of a 2D band-pass filter that can effectively simulate the pattern of transform coefficients by filtering random noise in a frequency domain.

2. (Original) The method according to claim 1 further comprising the step of transmitting at least one cut frequency in a Supplemental Enhancement Information message.

3. (Original) The method according to claim 1 wherein the film grain samples are processed in blocks of N x N pixels.

4. (Original) The method according to claim 3 wherein the step of analyzing the pattern created by the transform coefficients further comprises the steps of:

computing a mean block of N x N transform coefficients by averaging the transform coefficients from all the stored blocks;

defining horizontal and vertical mean vectors of N components each by averaging the mean block of N x N coefficients along rows and columns, respectively, of each transformed block;

representing the horizontal and vertical mean vectors as separate curves; and establishing horizontal and vertical cut frequencies from the curves represented by the horizontal and vertical mean vectors, respectively.

5. (Original) The method according to claim 4 further comprising the step of low pass filtering at least one mean vector.

6. (Original) The method according to claim 4 wherein the at least one cut frequency is established from an intersection point in the curve representing the mean vector.

7. (Original) The method according to claim 4 wherein each of a low and a high cut frequency is established from a first and second intersection points in the curve representing the mean vector.

8. (Original) The method according to claim 3 wherein the step of analyzing the pattern created by the transform coefficients further comprises the steps of:

computing a mean block of N x N transform coefficients by averaging the transform coefficients from all the stored blocks;

defining horizontal and vertical mean vectors of N components each by averaging the mean block of N x N transform coefficients along rows and columns, respectively, of each transformed block; averaging the horizontal and vertical mean vectors into a single mean vector;

representing the mean vectors as a curve; and establishing horizontal and vertical cut frequencies from the curve represented by the mean vector.

9. (Original) The method according to claim 8 further comprising the step of low pass filtering the mean vector.

10. (Original) The method according to claim 8 wherein at least one cut frequency is established from an intersection point in the curve representing the mean vector.

11. (Original) The method according to claim 8 wherein each of a low and a high cut frequency is established from a first and second intersection points in the curve representing the mean vector.

12. (currently amended) A method for automatically modeling film grain patterns, comprising the steps of:

receiving a set of film grain samples performing a transform on the set of film grain samples to the frequency domain;

storing each set of coefficients resulting from such transform, the coefficients forming a pattern;

analyzing the pattern created by the transform coefficients; and

estimating the cut frequencies of a 2D band-pass filter that can effectively simulate the pattern of transform coefficients by filtering random noise in a frequency domain.